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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/509,645	09/29/2004	Jung-Hwa Kang	YOM-0116	2267
23413	7590	06/27/2006	EXAMINER	
CANTOR COLBURN, LLP			NGUYEN, CAM N	
55 GRIFFIN ROAD SOUTH				
BLOOMFIELD, CT 06002			ART UNIT	PAPER NUMBER
			1754	

DATE MAILED: 06/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/509,645	KANG ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Cam N. Nguyen	1754	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 29 September 2004.
- 2a) This action is FINAL.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-5 is/are pending in the application.
  - 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-5 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____.
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____.

## DETAILED ACTION

### Claim Objections

1. Claims 1, 2, & 5 are objected to because of the following informalities:
  - A. In claim 1, line 4, --compound—is suggested insert after “metal salt”.
  - B. In claim 1, iv), “kinds of” is suggested deleted.
  - C. In claim 1, v), “kinds of” is suggested deleted.
  - D. In claim 1, step d), -- , -- should be inserted after “c”).
  - E. In claim 1, last line, “.”) should be changed to --).--.
  - F. In claim 2, line 2, “the step b)” should be changed to –the drying step b)--.
  - G. In claim 5, last line, “.”) should be changed to --).--.

Appropriate correction is required.

### Claim Rejections - 35 USC § 112 (Second Paragraph)

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
3. Claims 1-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation “the catalyst powder” in step d). There is insufficient antecedent basis for this limitation in the claim.

**Claim Rejections - 35 USC § 103**

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arnold et al., "hereinafter Arnold", (US Pat. 6,881,702 B2) taken together with Wang (US Pat. 5,364,522).

Arnold discloses a process for preparing a catalyst, comprising: preparing particulate catalyst precursor which contains oxides and/or compounds of elements other than oxygen which constitute a multimetal oxide material, etc., and converting said particulate catalyst precursor by calcinations into a catalytically active form, etc. and wherein said catalyst comprises an active phase of said multimetal oxide material (see col. 19- col. 20, claim 1). See also claims 2 & 3 for the chemical formula of the multimetal oxide material. The nitric acid was used to dissolve the metal salt compounds of the catalyst (see Example 1 at col. 11).

Regarding claim 1, the difference between the claimed process and the process disclosed by Arnold, is that Arnold does not teach to heat treating (or drying) the catalyst suspension using the microwave oven as being required in the instant claims.

However, it would have been *prima facie obvious* to one of ordinary skill in the art at the time the invention was made to have utilized the microwave oven heat treating

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technique in the process of Arnold in view of the advantageous disclosed by Wang (see Wang at col. 2, ln 23-52; col. 15, claim 16; & col. 16, claims 20-21).

Regarding claim 2, while Wang does not disclose the wavelength of the microwave oven used in his process, it would have been obvious to one having the ordinary skill in the art at the time the invention was made to have predetermined the optimum wavelength or parameters of the microwave oven to be used for such process because it is a result effective variable, see *In re Boesch*.

Regarding claims 3 & 4, Arnold does not disclose the claimed process conditions and catalyst surface area, it would have been obvious to one having the ordinary skill in the art at the time the invention was made to have optimized such process conditions in order to achieve an effective catalyst material, because of *In re Boesch*.

#### **Claim Rejections - 35 USC § 102(e)103**

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 5 is rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Arnold et al., "hereinafter Arnold, (US Pat. 6,881,702 B2).

Arnold discloses a catalyst having a chemical formula (II), which is  $\text{Mo}_{12}\text{Bi}_i\text{X}^8_k\text{Fe}_l\text{X}^9_m\text{X}^{10}_n\text{O}_z$ , wherein i, k, l, m, & n are falling within or overlapping with the claimed values (see col. 20, claim 3).

Product-by-process limitations in the claim is noted. While the disclosed product is not made by the same process, the catalyst disclosed is the same as being claimed. The claimed process limitations have no bearing on the patentability of the claimed product per se. See *In re Thorpe*, 227 USPQ 964 (Fed. Cir. 1985); *In re Brown*, 173 USPQ 688, 688 (CCPA 1977); *In re Fessman*, 180 USPQ 324, 326 (CCPA 1977). See also MPEP 2113.

### Citations

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. All references are cited for related art. See PTO-892 Form prepared attached.

### Conclusion

9. Claims 1-5 are pending. Claims 1-5 are rejected. No claims are allowed.

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10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Primary Examiner Cam N Nguyen, whose telephone number is 571-272-1357. The examiner can normally be reached on M, W, R, & F, 9:00 AM - 6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman, can be reached on 571-272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nguyen/cnn *CNN*  
June 26, 2006

*Cam N. Nguyen*  
CAM N. NGUYEN  
PRIMARY EXAMINER

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